

EICO®

718/"Space Ranger" Communications Receiver



OPERATING MANUAL

MODEL 718 SPACE RANGER

GENERAL DESCRIPTION

With the advent television in the late 1940's, there were many dire predictions concerning the fate of the movies and radio. Contrary to all premonitions, radio communications and entertainment is alive, flourishing and expanding in scope.

The EICO Model 718 Space Ranger has been designed to put the stories of life at your fingertips. By a mere twist of the dial, you are there when things happen. You have a front-row seat to the best in radio entertainment and news.

Band A, the Broadcast Band, will provide you with programming fit for the adult taste. Music, sports, news, discussion and comments are available across the band—frequently in many different languages.

The Marine Band B covers amateur radio broadcasts, the standard frequency station WWV at 2.5 MHz, as well as Maritime and Aeronautical conversations.

The remaining two Short Wave Bands **C** and **D**, present you with some of the most interesting and informative information. Here, you can receive foreign short wave broadcasts of news and entertainment. You can hear events as they happen, directly from all corners of the globe. In addition, there are numerous amateur radio bands, citizen radio bands, and maritime and aeronautical broadcasts spread across the dial.

All features required for efficient and convenient operation of a Communications Receiver are provided on the EICO Model 718 Space Ranger. Overall performance is enhanced by the use of an **FET** (Field Effect Transistor) radio frequency amplifier and mixer.

A **BANDSPREAD** control is featured for fine tuning purposes. Some closely spaced stations are difficult to separate when using the conventional tuning control. The **BANDSPREAD** control allows you to choose the station you want while rejecting the undesired one.

CW Code can be read only when the received signal is beat against (or mixed with) a local oscillator. The **BFO** in the Model 718 fulfills this local oscillator requirement. The frequency of the audible code may be varied with the BFO control. The **BFO** and **BANDSPREAD** controls are both used for single sideband reception. For ordinary voice reception, the **BFO** may be switched to OFF.

Signals may be accompanied by **noise**. This is especially true in poor reception areas or when listening to weak stations located far from the receiver. A switched **ANL** (Automatic Noise Limiter) is provided to eliminate or minimize the effect of this type of undesirable interference.

The Space Ranger may be **powered** from your 120 volt, 60 Hz AC **wall outlet** or by a 12 volts **battery supply**.

SPECIFICATIONS

- Frequency Range:**
- Band A** - 535 - 1600 kHz (.535 - 1.60 MHz) Standard Broadcast Band
 - Band B** - 1.55 - 4.5 MHz Maritime Band
 - Band C** - 4.5 - 13 MHz Foreign Short Wave Band
 - Band D** - 13 - 30 MHz Foreign Short Wave and Citizen's Band

Meter: Calibrated in "S" units indicating relative signal strength.

Phones: Jack for any headphone between 8 and 10,000 ohms

Semiconductors: 2 - FET - 2SK19, 3 - NPN - 2SC372, 2 - NPN - 2SC373, 2 - NPN - 2SD72, 4 - Ge Diodes - 1N34A, 2 - Sil Rect - FR-1, 2 - Thyristors - D-1E, 1 - 9 volt zener diode, 1 - 7 volt zener diode. (Types may be changed to affect improvements).

Power Requirements: 105-125 Volt, 50/60 Hz AC, 5 watts or 12 volt battery (8-1.5 Volt size "D" cells).

Dimensions: (HWD): 6 x 12-5/8 x 8-1/2

Weight: 9 1/2 lbs.

CIRCUIT DESCRIPTION

The desired frequency range is selected by BAND switch S1. While one section of the switch, S1-b, is arranged to choose the proper RF coils for the required band, sections S1-a and S1-c are used to pick the oscillator coil. The coils are tuned by the two sections of capacitor VC1 while the fine tuning function is accomplished by the two sections of capacitor VC2. Q2, in conjunction with the stabilizing diode D1, are the active components of the local oscillator section.

The RF signal fed to the gate of Q1, and the local oscillator signal, are mixed in the transistor Q1. The IF frequency is selected by transformers T1, T2 and T3, and amplified by Q3 and Q5. The signal is detected by D3 at the output of IF transformer T3. This point is also used for the "S" meter circuit as well as for the ANL (Automatic Noise Limiter) using D4 in a limiting circuit. Automatic Gain Control is provided through diodes D1 and D2.

The level of the detected audio is set by potentiometer VR-2 and fed to voltage amplifiers Q6 and Q7. Using a transformer for phase inversion, the output is delivered by Q8 and Q9 arranged in an advanced output-transformerless circuit. TH1 and TH2 are used for stabilizing the output circuit against variations with temperature.

The switched BFO (Beat Frequency Oscillator) is designed around Q3 and T4.

A transformer is used in the AC power supply to isolate the receiver from the line. D5 and D6 are the power rectifiers. The DC is regulated and filtered by D7, D8, C48 and C49. An Operate-Standby switch on the front panel removes the DC from the radio and intermediate frequency sections of the receiver. Thus, the receiver may be disabled while transmitting, without waiting for components to stabilize once reception is again required.

A jack and plug is provided for connecting batteries to the receiver when this source of power is desired. An AC-BATTERY slide switch on the rear panel allows for convenient switching from DC battery to AC line operation. **CAUTION: DO NOT plug the line cord into a DC source. Use only a nominal 120 volt, 50/60 Hz AC supply when using the line cord. 12 volts DC from a battery may be supplied only to the plug at the rear apron of the chassis.**

OPERATION

Before using the receiver the functions of all controls on the panel and rear apron should be learned.

VOLUME/POWER-OFF switch. Turns the receiver on and off. Sets the volume level for the internal loudspeaker or for headphones.

BFO control. Varies the tone of the CW signal. Also used for reception of SSB (Single Side Band) and weak Broadcast Band signals.

BAND switch. Selects the desired band. Band A is 535 to 1600 KHz, band B is 1.55 to 4.5 MHz, band C is 4.5 to 13 MHz, and band D is 13 to 30 MHz.

BANDSPREAD control. Provides fine tuning to separate stations broadcasting on carriers very close to the same operating frequency. This control should be in SET position when not in use, as it affects the main TUNING calibration.

RF SENSITIVITY control. Turn clockwise to receive weak signals.

TUNING control. Tunes receiver to the desired frequency, as indicated by pointer on the main tuning dial.

BFO switch. Set to ON only when receiving CW (code) or SSB signals.

ANL switch. Set to ON only when reception is noisy.

OPR-STB switch - Set to STB (stand-by) only when transmitting.

BATTERY-AC switch (on rear apron). Selects battery or AC line operation. Never plug the line cord into any other source of power than a normal 120 volts, 50/60 Hz AC line.

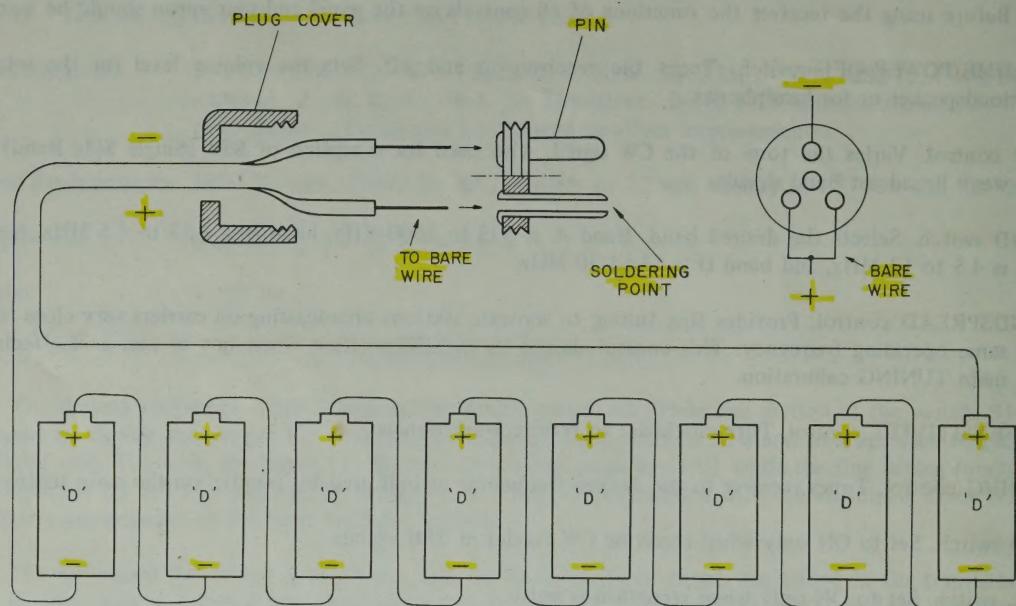
The functions of the jack, plug, meter and terminals are as follows:

PHONES jack. Connect headphones with impedance anywhere between 8 and 10,000 ohms to this jack. Use a standard phone plug for this purpose. Plug automatically disconnects internal speaker.

"S" meter. Indicates relative signal strength as well as aids while tuning the receiver.

ANT terminals (on rear apron). The Model 718 has a built-in ferrite antenna. This is useful only when receiving the broadcast band A. An outdoor antenna, 50 to 100 feet long, must be used for reception of bands B, C and D. Connect this to lug A at the ANT terminals at the rear of the receiver. Connect the G terminal to a good ground such as a water pipe or radiator. DO NOT use the electric power line as the ground. A lightning arrestor may be placed between the A and G terminals for protection.

DC 12V POWER jack (on rear apron). A plug is supplied for this jack. If you require battery operation connect a 12 volt battery, or 8 "D" cells connected in series, to this plug. First, pull the plug out from the jack, if it has been previously inserted into it. Then, unscrew the cap from the plug. Note that the plug has 3 pins—2 are close together. Connect these two pins to each other by slipping a piece of bare wire into these pins and solder them to the wire. Now pass the positive and negative wires from the battery through the hole from the rear and into the plug cover. Solder the positive lead to the bare wire just soldered to the two pins. Strip back 1/2 inch of the insulation from the free end of the negative lead. Push this bare wire into the remaining pin of the plug and solder. Now, screw the cap back into the plug. Insert the plug into the jack.



8 - 1½ Volt Size "D" Cells Connected in Series

Once the functions of the controls are understood and the proper connections have been made, the receiver may be operated as an ordinary radio. Tune slowly and carefully through the short wave bands, using bandspread as required. Special procedures should be followed in the CW and SSB modes of operation.

CW (code operation). With the set operating, switch BFO to ON. Tune in the desired station. The BFO control can be adjusted for the most pleasing tone. The frequency of this tone is also a function of both the main TUNING and BANDSPREAD controls settings. Any of these controls may be used to set the desired tone.

SSB (single side band) operation. When an SSB station is being received, switch BFO to ON and adjust the BFO and BAND SPREAD controls until the voice signals are clear.

SHORT WAVE BROADCASTS

FOREIGN BROADCASTS. There are many stations throughout the world beaming programs at the United States. A multitude of news and propaganda is available from all capitols. BBC from England transmits fine cultural programs. There are interesting discussions on literature, hobbies and places of interest. All types of music is available to the short wave fan. Table 1 lists the time short wave broadcasts are normally available from the various countries, as well as the frequency on which these programs are transmitted.

Table 1. Short Wave Broadcasts

Time - EST	Country	Frequency MHz	Time - EST	Country	Frequency MHz
7AM - Midn	Costa Rica	6.006	7PM - Midn	Venezuela	15.39
7AM - Noon	India	6.085	8PM - 10PM	Burma	6.035
7AM - Midn	Nicaragua	6.14	8PM - 11PM	China	11.825
8AM - 11AM	Hungary	9.565	8PM - Midn	Czechoslovakia	6.005
9AM - 11AM	Hungary	17.720	8PM - Midn	Germany (West)	9.605
9AM - 11PM	Mexico	11.965	8PM - 11PM	Liberia	9.59
9AM - 6PM	USA	17.78	8PM - Midn	Vietnam	11.92
9AM - 2PM	Yugoslavia	6.1	9PM - 11PM	China	17.89
10AM - 4PM	Congo (East)	11.865	9PM - Midn	USSR	11.955
10AM - 4PM	Israel	11.92	Midn - 7PM	Austria	6
10AM - 4PM	Poland	6.005	Midn - 7PM	Germany	7.265
11AM - 4PM	Belgium	11.85	Midn - Midn	Japan	9.595
11AM - 2PM	Finland	15.19	Midn - 1AM	South Korea	15.125
11AM - 4PM	Netherlands	17.81	Midn - 4AM	Pakistan	17.76
11AM - 6PM	Turkey	7.285	Midn - 3AM	Portugal	7.235
11AM - 7PM	UAR	15.35	Midn - 6AM	USSR	7.13
11AM - 5PM	USSR	9.66	Midn - 2PM	USSR	11.955
11AM - 5PM	Vatican	7.29	1AM - 4AM	Ceylon	15.33
Noon - 3PM	England	5.975	1AM - 11AM	Saudi Arabia	9.67
Noon - 2PM	France	17.85	1AM - 4AM	South Africa	9.525
Noon - 3PM	Greece	17.745	1AM - 10AM	Tunisia	11.97
Noon - 4PM	Israel	9.625	1AM - Noon	USA	6.04
Noon - 6PM	New Zealand	9.54	2AM - 7PM	Spain	5.995
1PM - 6PM	Italy	15.4	3AM - 10PM	Brazil	11.72
3PM - 6PM	England	15.14	3AM - 4PM	Germany (West)	9.72
3PM - 6PM	Netherlands	9.59	3AM - 5PM	Italy	7.175
3PM - 9PM	Switzerland	11.865	3AM - 8AM	Spain	11.97
4PM - 7PM	Cuba	15.285	4AM - 7AM	Philippines	15.3
4PM - 7PM	England	11.86	4AM - 8PM	Sweden	9.62
4PM - 9PM	Rumania	6.19	4AM - 10AM	Switzerland	15.315
4PM - 10PM	Uruguay	15.28	5AM - 8AM	Denmark	15.165
5PM - 9PM	Congo (West)	11.725	5AM - 9PM	French Guiana	6.17
5PM - Midn	USA	11.74	6AM - 11PM	Bolivia	9.555
6PM - Midn	Bulgaria	9.7	6AM - 7PM	China	9.745
7PM - Midn	Australia	15.24	6AM - 10AM	Cyprus	15.185
7PM - 11PM	Austria	9.77	6AM - 10AM	Cyprus	17.870
7PM - Midn	Ecuador	9.745	6AM - Midn	Dominican Rep	9.505
7PM - 11PM	Portugal	9.74	6AM - Midn	Peru	15.150

AMATEUR RADIO. Hams, as the licensed amateur is known, hold conversations with other hams right on the air. Besides being informative, they are frequently very entertaining. Along with idle chatter, hams have served a vital function during emergencies when all other means of communications no longer exist. Their broadcasts can keep you informed about emergencies while they exist.

Hams can broadcast in CW, using code, or by voice. The standard International Morse Code, as used by the amateurs, is shown in Table 2.

Table 2. International Morse Code

Letter	Dot-Dash Sequence	Sound	Letter	Dot-Dash Sequence	Sound
A	• —	di-dah	S	• • •	di-di-dit
B	— . . .	dah-di-di-dit	T	—	dah
C	— . — .	dah-di-dah-dit	U	• • —	di-di-dah
D	— . .	dah-di-dit	V	• • • —	di-di-dah-dit
E	.	dit	W	• — —	di-dah-dah
F	• . — .	di-di-dah-dit	X	— • • —	dah-di-di-dah
G	— — .	dah-dah-dit	Y	— • — —	dah-di-dah-dah
H	• . . .	di-di-di-dit	Z	— — • •	dah-dah-di-dit
I	• .	di-dit	1	• — — — —	di-dah-dah-dah-dah
J	• — — —	di-dah-dah-dah	2	• • — — —	di-di-dah-dah-dah
K	— . —	dah-di-dah	3	• • • — —	di-di-di-dah-dah
L	— . — .	di-dah-di-dit	4	• • • • —	di-di-di-di-dah
M	— —	dah-dah	5	• • • • •	di-di-di-di-dit
N	— .	dah-dit	6	— • • • •	dah-di-di-di-dit
O	— — —	dah-dah-dah	7	— — • • •	dah-dah-di-di-dit
P	• — — .	di-dah-dah-dit	8	— — — • •	dah-dah-dah-di-dit
Q	— — — —	dah-dah-di-dah	9	— — — — •	dah-dah-dah-dah-dit
R	— — .	di-dah-dit	0	— — — — —	dah-dah-dah-dah-dah

With your receiver, you can participate in the Ham's DX'ing activity. In this pursuit, the Ham attempts to receive stations remotely located from their own Ham Shack.

MARITIME BAND. Near the coast, you can listen to ship-to-ship and ship-to-shore conversations. You can get accurate information about fishing conditions and the weather. Table 3 lists stations, their locations, and the local time at which weather reports are made.

Table 3. Weather Report Broadcasts

Location	Frequency (MHz)	Local Time
Eureka, Cal.	2.506, 2.45	9:00AM, 9:00PM
San Pedro, Cal.	2.506, 2.45	8:30AM, 8:30PM
New Castle, Del.	2.558	7:30AM, 7:30PM
Jacksonville, Fla.	2.566	7:00AM, 7:00PM
Miami, Fla.	2.49	7:15AM, 9:15AM
Tampa, Fla.	2.55	7:00AM, 7:00PM
New Orleans, La.	2.482, 2.598	8:00AM, 11:00PM
Boston, Mass.	2.45, 2.506	5:20AM, 5:20PM, 11:20PM
Baltimore, Md.	2.558	7:45AM, 7:45PM
Galveston, Texas	2.53	12:30PM, 7:30PM
Ocean Gate, N.J.	2.558	7:15AM, 9:15AM
New York, N.Y.	2.552, 2.59	7:15AM, 9:15AM
Astoria, Oregon	2.598	9:15AM, 9:15PM
Portland, Oregon	2.598	9:30AM, 9:30PM
Seattle, Wash.	2.522	9:00AM, 9:00PM

WWV. The National Bureau of Standard radio stations appear at 2.5, 5, 10, 15, 20 and 25 MHz on your dial. The information they supply is varied.

Time ticks are broadcasts on all stations. There is a faint tick broadcast every second. A musical tone, A above middle C, is also transmitted. A 4000 cycle note is transmitted, but only on the 10 and 15 MHz channels. EST (Eastern Standard Time) announcements are made every 5 minutes in Morse Code, while the station identifies itself on the hour and half hour. You must, however, choose the WWV frequency providing best reception in your area.

IN GENERAL, many different types of services are available on the short wave bands. The three bands, with some of the programming available on each, are shown in Tables 4, 5, and 6.

Table 4. Services on Band B

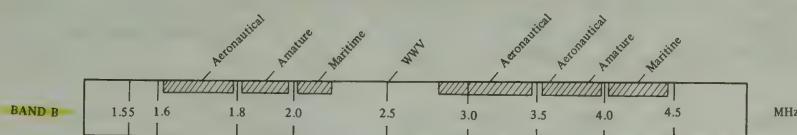


Table 5. Services on Band C

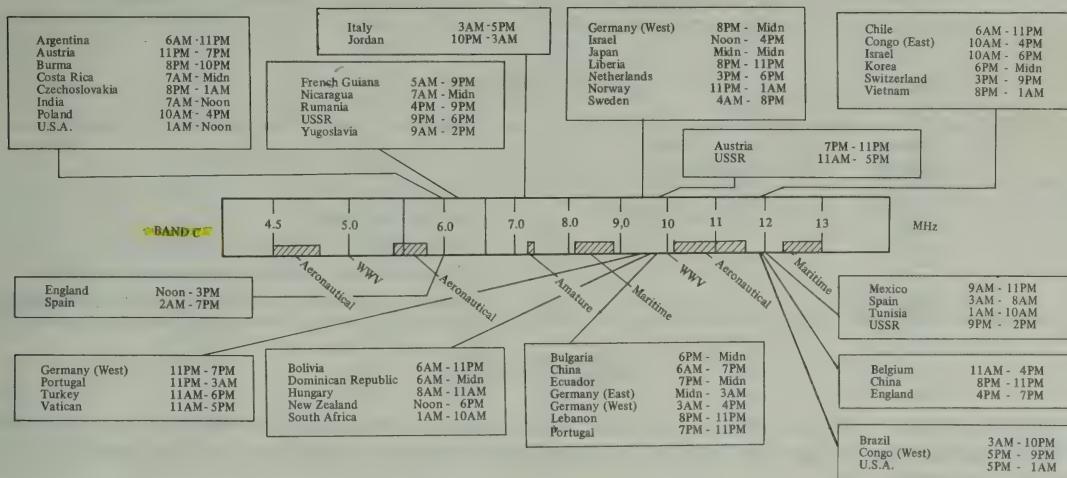
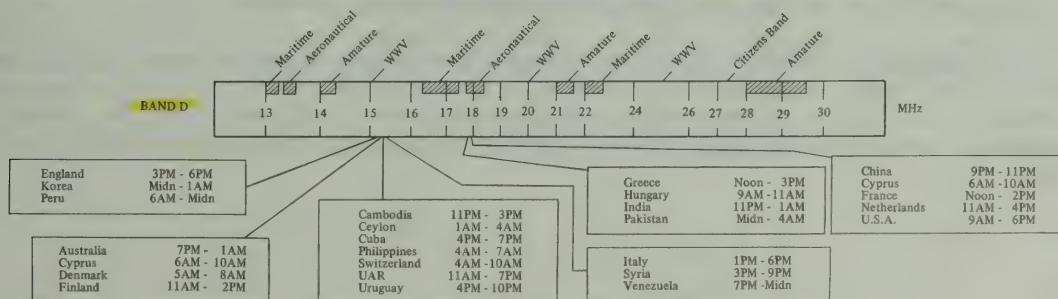


Table 6. Services on Band D



MEGAHERTZ FROM METERS

Although the dial on your EICO Model 718 Space Ranger is calibrated in MHz (Megahertz), the wavelength of radio stations in meters may be listed in a log book. To convert from meters to MHz, the following formula may be used.

$$\text{MHz} = 300/\text{meters}$$

Short wave stations appearing in groups on the dial have been assigned specific Meter Band designations. A list of foreign and domestic short wave bands, in meters, along with an important characteristic of each band, is shown in Table 7. Table 8 refers to the Ham Bands in a similar manner.

Table 7. Short Wave Bands

Band (Meter)	Band (MHz)	Characteristics
16	17.7 - 17.9	Long distance
19	15.1 - 15.45	Long distance
25	11.7 - 11.975	Reception to 2200 miles, daytime
31	9.2 - 9.7	Reception to 1500 miles, daytime
41	7.1 - 7.3	Reception to 1000 miles, daytime
49	5.95 - 6.2	Reception to 1000 miles, daytime

Table 8. Ham Bands

Band (Meter)	Band (MHz)	Characteristics
20	14 to 14.35	Long distance
40	7 to 7.3	Reception to 1000 miles, daytime
80	3.5 to 4	Reception to hundreds of miles, daytime
160	1.8 to 2.0	Reception to several hundreds of miles, daytime

RELATIVE TIME

The world is divided into twenty-four time zones, each zone being one hour different from its neighboring zones. In the zone to the west, the time is one hour earlier while to the east, the time is one hour later.

Foreign programs are frequently listed in periodicals in accordance with the local time standard. Other listings state time at the broadcasting station. A third system, using GMT (Greenwich Mean Time), may be used. It is essential to be able to convert from one time system to any of the others.

GMT, accepted by all SWL's (Short Wave Listeners), is rooted on the time in England. The day is partitioned into 2400 hours. Thus in England, 0000 GMT is 12 Midnight, 0100 GMT is 1 o'clock in the morning, 0200 GMT is 2AM, etc. At 12 Noon, GMT is 1200 while it is 1300 at 1 PM, 1400 at 2 PM, etc. Similar to the conventional method of telling time, 7:40 PM is 1940 GMT. **In Table 9, GMT is related to the American Time Zones.**

Table 9. GMT as related to American Time Zones

GMT	EST CDT	EDT	AST HST	PST	MST PDT	CST MDT
0000	7PM	8PM	2PM	4PM	5PM	6PM
0100	8PM	9PM	3PM	5PM	6PM	7PM
0200	9PM	10PM	4PM	6PM	7PM	8PM
0300	10PM	11PM	5PM	7PM	8PM	9PM
0400	11PM	Midn	6PM	8PM	9PM	10PM
0500	Midn	1AM	7PM	9PM	10PM	11PM
0600	1AM	2AM	8PM	10PM	11PM	Midn
0700	2AM	3AM	9PM	11PM	Midn	1AM
0800	3AM	4AM	10PM	Midn	1AM	2AM
0900	4AM	5AM	11PM	1AM	2AM	3AM
1000	5AM	6AM	Midn	2AM	3AM	4AM
1100	6AM	7AM	1AM	3AM	4AM	5AM
1200	7AM	8AM	2AM	4AM	5AM	6AM
1300	8AM	9AM	3AM	5AM	6AM	7AM
1400	9AM	10AM	4AM	6AM	7AM	8AM
1500	10AM	11AM	5AM	7AM	8AM	9AM
1600	11AM	Noon	6AM	8AM	9AM	10AM
1700	Noon	1PM	7AM	9AM	10AM	11AM
1800	1PM	2PM	8AM	10AM	11AM	Noon
1900	2PM	3PM	9AM	11AM	Noon	1PM
2000	3PM	4PM	10AM	Noon	1PM	2PM
2100	4PM	5PM	11AM	1PM	2PM	3PM
2200	5PM	6PM	Noon	2PM	3PM	4PM
2300	6PM	7PM	1PM	3PM	4PM	5PM
2400	7PM	8PM	2PM	4PM	5PM	6PM

The time in the foreign countries differs from the time in the United States. Through the use of Table 10, you will be able to relate the time at the countries beaming programs at the United States, with EST. From this, you can then calculate the time in the area you live. The number next to each country indicates the amount that must be added or subtracted from Eastern Standard Time to determine the time in that particular country.

Table 10. Time in Various Countries as Related to EST

Algeria	+ 5	Italy	+ 6
Argentina	+ 1	Japan	- 10
Australia	- 9	Jordon	+ 7
Austria	+ 6	Korea	- 10
Belgium	+ 6	Lebanon	+ 7
Bolivia	+ 1	Liberia	+ 5
Brazil	+ 2	Mexico	- 1
Bulgaria	+ 7	Netherlands	+ 6
Burma	+ 12	New Zealand	- 7
Cambodia	+ 12	Nicaragua	- 1
Ceylon	+ 10-1/2	Norway	+ 6
Chile	+ 1	Pakistan	+ 10-1/2
China	- 11	Peru	0
Congo	+ 6	Philippines	- 11
Costa Rica	- 1	Poland	+ 6
Cuba	0	Portugal	+ 5
Cyprus	+ 7	Rumania	+ 7
Czechoslovakia	+ 6	Saudi Arabia	+ 7
Denmark	+ 6	South Africa	+ 7
Dominican Republic	0	Spain	+ 6
Ecuador	0	Sweden	+ 6
England	+ 5	Switzerland	+ 6
Finland	+ 7	Syria	+ 7
France	+ 6	Tunisia	+ 6
French Guiana	+ 2	Turkey	+ 7
Germany	+ 6	Uruguay	+ 2
Greece	+ 7	UAR	+ 7
Guatemala	- 1	USSR	+ 7
Hungary	+ 6	Vatican	+ 6
India	+ 10-1/2	Venezuela	+ 1
Ireland	+ 5	Vietnam	+ 12
Israel	+ 7	Yugoslavia	+ 6

For example, assume you are in Los Angeles. It is 4PM-PDT (Pacific Daylight Savings Time). You are listening to a newscast from Israel. What time is it in Haifa?

From Table 9, you notice that when it is 4PM-PDT, it is 6PM-EST. On Table 10, the number next to Israel is +7. Hence, it is 6PM + 7, or 13 PM (1 AM) in Haifa.

Now assume it is 6AM in Korea. What time is it in Albany, New York when they are on standard time?

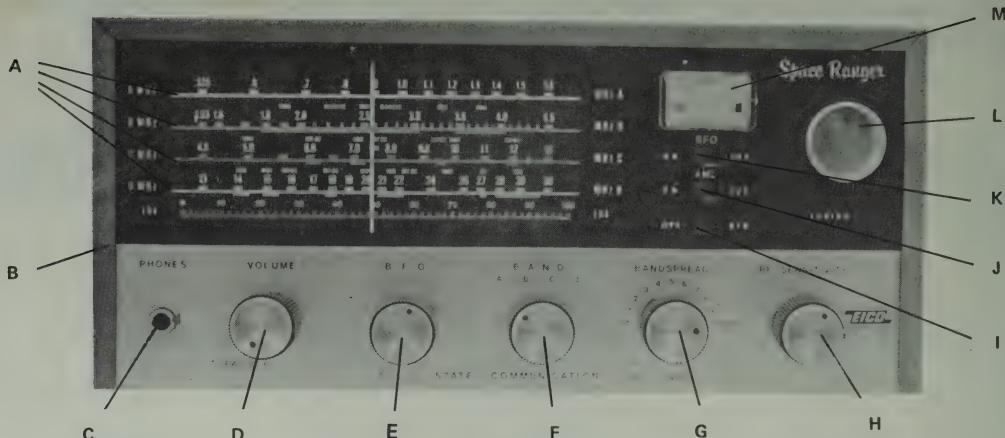
Table 10 shows a -10 next to Korea. Hence, you must subtract 10 hours from the Albany time to determine the time in Korea, or add 10 hours to the time in Korea to establish the time in Albany. 6AM + 10 is equal to 16 AM, or 4PM.

THE LOG

Amateurs must keep a log. This type of record can be of interest to all SWL's. It describes the distant radio station received on your EICO 718. A typical log would indicate the time and day the program was received, the station and the location of the station geographically as well as on the dial, and the quality of reception. A good log table would also reserve a large column for any remarks and comments.

EICO DX-718 4 BAND COMMUNICATIONS RECEIVER

Identification of Features and Controls



FRONT VIEW

A FREQUENCY RANGE:

BAND A: Standard Broadcast, .535-1.6MHz. BAND B: 1.55-4.5MHz. The thick lines between 1.8-2MHz and 3.4-4MHz signify the 160 meter and 80 meter Amateur Bands respectively.

BAND C: 4.5-13MHz. The 40-meter Amateur Band and International Broadcasts are indicated by thick lines.

BAND D: 13-30MHz. This band includes the 20 meter, 15 meter, 11 meter (CB) and 10 meter bands as well as international Broadcast Bands.

B SPEAKER (at side): 3 x 5-inch permanent magnet, 8 ohm voice coil.

C PHONES: Phone Jack for headphones from 8 to 10000 ohms or an external 8-ohm speaker.

D VOLUME/POWER-OFF:

Turns receiver ON (clockwise) and OFF (counter-clockwise); volume increases as you rotate control clockwise.

E BFO: After peaking the received CW or SSB signal, adjust the BFO Pitch Control either clockwise or counter-clockwise for the most desirable CW note or best single-sideband voice quality.

F BAND SWITCH: The letters A, B, C and D above control knob coincide with the band letters on dial.

G BANDSPREAD CONTROL: Similar to a fine tuning control. Use for fine tuning after you have adjusted the main Tuning pointer to the approximate dial locations of the station you wish to receive. Place in SET position when not using control.

H RF SENSITIVITY: This control permits adjustment of RF sensitivity of all bands. For weak signal reception, advance control in a clockwise direction; on very strong signals, adjust control to a counter-clockwise position.

I OPERATION/STANDBY SWITCH: In Receive position, the Audio is heard through your Speaker or your Headphones. In Standby Position, the set remains ON but your Speaker and Headphone circuits are disconnected.

J ANL: Automatic Noise Limiter aids in reduction of static and noise.

K BFO SWITCH: To receive CW (code) or SSB signals, switch should be put in the ON position. Tone pitch is adjusted with BFO, Bandspread, or main tuning controls.

L MAIN TUNING CONTROL: Use for regular or fast tuning. Moves pointer to dial location. Use for tuning most Standard Broadcast stations and for scanning the Short Wave Bands.

M "S" UNIT METER: An indicator that serves both as a tuning aid and a relative signal strength indicator.

N ANTENNA TERMINALS: Connect antenna to lug 'A', connect ground to lug 'G'.

O AC CORD: The linecord must be plugged in to a nominal 120VAC 50/60 cycle AC line only. Do not plug into a DC supply.

P AC/BATTERY SWITCH: Select 12 Volt DC battery power supply or 120VAC power source using line cord.

Q DC POWER PLUG: A jack and plug is provided for connecting battery to the receiver. 12VDC from a battery may be supplied only at this plug. The polarity is negative ground.



REAR VIEW

EICO DX-718 4 BAND COMMUNICATIONS RECEIVER

Identification of Features and Controls



FRONT VIEW

A FREQUENCY RANGE:

BAND A: Standard Broadcast, .535—1.6MHz. BAND B: 1.55—4.5MHz. The thick lines between 1.8—2MHz and 3.4—4MHz signify the 160 meter and 80 meter Amateur Bands respectively.
BAND C: 4.5—13MHz. The 40-meter Amateur Band and International Broadcasts are indicated by thick lines.
BAND D: 13—30MHz. This band includes the 20 meter, 15 meter, 11 meter (CB) and 10 meter bands as well as International Broadcast Bands.

B SPEAKER (at side): 3 x 5-inch permanent magnet, 8 ohm voice coil.

C PHONES: Phone Jack for headphones from 8 to 10000 ohms or an external 8-ohm speaker.

D VOLUME/POWER-OFF: Turns receiver ON (clockwise) and OFF (counter-clockwise); volume increases as you rotate control clockwise.

E BFO: After peaking the received CW or SSB signal, adjust the BFO Pitch Control either clockwise or counter-clockwise for the most desirable CW note or best single-sideband voice quality.

F BAND SWITCH: The letters A, B, C and D above control knob coincide with the band letters on dial.

G BANDSPREAD CONTROL: Similar to a fine tuning control. Use for fine tuning after you have adjusted the main Tuning pointer to the approximate dial locations of the station you wish to receive. Place in SET position when not using control.

H RF SENSITIVITY: This control permits adjustment of RF sensitivity of all bands. For weak signal reception, advance control in a clockwise direction; on very strong signals, adjust control to a counter-clockwise position.

I OPERATION/STANDBY SWITCH: In Receive position, the Audio is heard through your Speaker or your Headphones. In Standby Position, the set remains ON but your Speaker and Headphone circuits are disconnected.

J ANL: Automatic Noise Limiter aids in reduction of static and noise.

K BFO SWITCH: To receive CW (code) or SSB signals, switch should be put in the ON position. Tone pitch is adjusted with BFO, Bandspread, or main tuning controls.

L MAIN TUNING CONTROL: Use for regular or fast tuning. Moves pointer to dial location. Use for tuning most Standard Broadcast stations and for scanning the Short Wave Bands.

M "S" UNIT METER: An indicator that serves both as a tuning aid and a relative signal strength indicator.

N ANTENNA TERMINALS: Connect antenna to lug 'A', connect ground to lug 'G'.

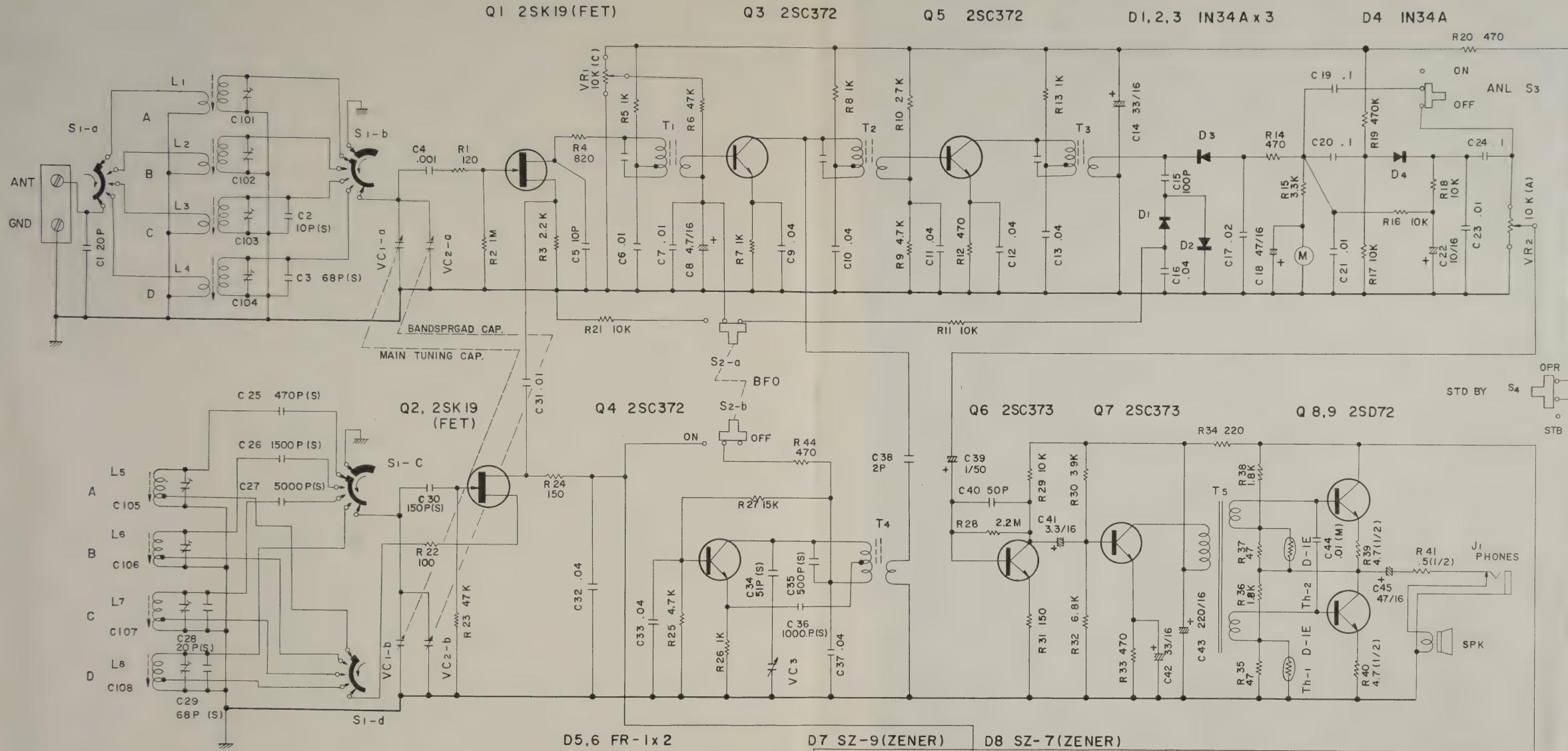
O AC CORD: The linecord must be plugged in to a nominal 120VAC 50/60 cycle AC line only. Do not plug into a DC supply.

P AC/BATTERY SWITCH: Select 12Volt DC battery power supply or 120VAC power source using line cord.

Q DC POWER PLUG: A jack and plug is provided for connecting battery to the receiver. 12VDC from a battery may be supplied only at this plug. The polarity is negative ground.

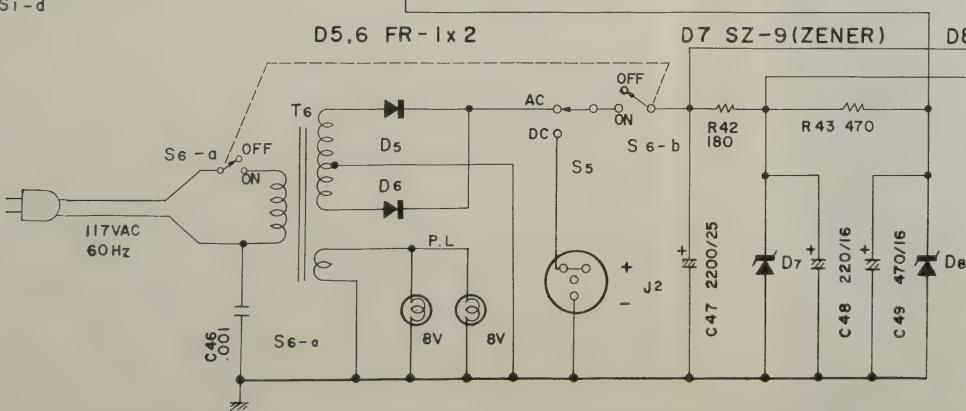


REAR VIEW



REMARKS:

1. RESISTANCE VALUES IN OHMS. K = 1.000
2. CAPACITANCE VALUES IN MF. P = MMF
3. RATING WILL REVISED FOR IMPROVEMENT.



FUNCTION:

1. S1-a ~ b : BAND SELECTOR
2. S2-a ~ b : BFO ON-OFF SWITCH
3. S3 : ANL ON-OFF SWITCH
4. S4 : STAND BY-OPERATION SWITCH
5. S6 : AC - DC SOURCE SWITCH
6. S6/a ~ b : POWER ON-OFF SWITCH W/VOLUME CONTROL
7. VC1-a ~ b : MAIN TUNING
8. VC2, a - b : BANDSPREAD
9. VC3 : B. F. O. PITCH
10. J1 : PHONES JACK
11. J2 : D. C. POWER JACK

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